TARGET Newsletter

Table of contents

The objective of the TARGET2 Newsletter is to inform the user community and the general public about relevant issues surrounding the TARGET2 system in operation.[1] The Newsletter contains articles of special interest, and provides insights and opinions from relevant system participants.

Introduction

The fifth issue of the TARGET Newsletter was published on March 2012. Since then, the TARGET2 system has continued to perform smoothly, with the TARGET2 Single Shared Platform (SSP) achieving 100% availability. In the first half of 2012, TARGET2 settled a daily average of 355,924 transactions with an average daily value of €2,740 billion. With a market share of 57% in terms of volume and 92% in terms of value, TARGET2 maintained its dominant position in the market for large-value payments in euro. The stability of TARGET2's market share confirms the strong interest of banks in settlement in central bank money. In total, 24 central banks of EU Member States and their respective user communities are connected to TARGET2, namely 18 euro area central banks (including the ECB)[2] and six central banks from non-euro area countries.[3]

The Eurosystem is currently working on enhancements to TARGET2 that will be implemented in 2013. In fact, it has been agreed with the user community that, in view of the minor enhancements to TARGET2 foreseen for release 6.0, that release will not be implemented until November 2013, i.e. together with the enhancements foreseen for release 7.0. Inter alia, this enables the Eurosystem to devote more resources to major upcoming developments such as the adaptations to T2S, which are also foreseen for 2013.

About the TARGET Newsletter
This issue of the TARGET Newsletter contains two special interest articles, namely a "Study on the identification of euro money market transactions in TARGET2" and an overview of "SSP operational monitoring", prepared by the 3CB (the technical provider of TARGET2). There are also two boxes presenting a list of items recently published on the TARGET2 website and providing information on the main TARGET2

1 In the following paragraphs, the references made to the first-generation TARGET system (which was in operation from January 1999 to May 2008) are also applicable to its second-generation successor, TARGET2 (which has been in operation since November 2007). Indeed, the second-generation system continues to provide euro RTGS services, but with significant improvements. This is the reason for both the first and second-generation systems being referred to as "TARGET" in many instances in this newsletter, i.e. no distinction is made between TARGET and TARGET2.
2 The central banks of Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Portugal, Slovenia, Spain and the Netherlands, as well as those of Malta and Cyprus, which joined the euro area in January 2008, Slovakia, which joined the euro area in January 2009, and Estonia, which adopted the euro on 1 January 2011.
3 The central banks of Denmark, Poland, Latvia, Lithuania, Bulgaria and Romania.

EUROPEAN CENTRAL BANK
EUROSYSTEM

indicators in the first half of 2012. In addition to the boxes, two charts depict TARGET2 traffic trends in detail. The final part of the newsletter includes a calendar of events and details on additional sources of information on TARGET2.

The next, the seventh issue of the TARGET Newsletter is scheduled for publication in the first quarter of 2013.

Recently published on the TARGET2 website

http://www.target2.eu

- 21/09/2012 – Amendments to the TARGET2 pricing policy
- 29/08/2012 – New AS profile for Banco de Portugal – Mercado Monetário Interbancário
- 01/08/2012 – Quarterly update of the TARGET2 performance indicators
- 31/07/2012 – Communication to the users: TARGET2 testing and SWIFT standards 2012
- 09/07/2012 – Updated profiles of Euroclear France and LCH.CLEARNET SA
- 03/07/2012 – List of TARGET2 participants
- 19/06/2012 – Change in night-time settlement cycle IET in STEP2-T
- 19/06/2012 – Outcome of the 2nd user consultation on T2-T2S
- 22/05/2012 – Updated country profile for Greece – end of transition period
- 25/04/2012 – Quarterly update of the TARGET2 performance indicators
- 10/04/2012 – 2nd user consultation on T2-T2S
- 02/04/2012 – List of TARGET2 participants

Special interest article

Study on the identification of euro money market transactions in TARGET2

Introduction
Central banks pay great attention to the functioning and structure of the money market, to liquidity levels and prices, and to risk in these markets, including systemic risk. However, it may prove difficult to obtain information on money market transactions. Such knowledge would be of particular relevance in view of the financial crisis, as it enables to gain an insight into and thoroughly analyse the money market structure and conditions, and to measure both disturbances in the distribution of central bank money and risks of contagion across market participants and countries.

In the absence of a unique pool of information on the money market in the euro area, the Eurosystem followed the successful attempts of several central banks around the world to identify money market transactions in their payments data and performed a study aimed at identifying such transactions in TARGET2. The study is based on the implementation of the so-called Furfine algorithm, named after the American economist who first applied it to the Fedwire data. Although it is evolving work, it is possible to share some information on the methodology used in the study.

The euro area money market
While banks generally receive central bank liquidity in euro directly from the central bank, mainly through monetary policy operations, they have the possibility of covering their intraday liquidity needs through central bank intraday credit and their overnight liquidity needs by using the marginal lending facility. In addition, banks can take recourse to the deposit facility in order to place surplus funds overnight at the central bank. However, given the opportunity costs of turning to the Eurosystem's standing facilities (i.e. the deposit facility and the marginal lending facility), banks prefer – under normal circumstances – to borrow/lend central bank money from/to other banks, with the transfer of ownership being expressed in debit and credit bookings on the central bank accounts of the two counterparties.

The euro interbank money market can therefore be defined as the secondary market for central bank money, where banks with a shortage of central bank liquidity endeavour to find banks with a surplus of central bank liquidity. While central bank credit requires full collateralisation based on eligible collateral, the interbank money market can be split into secured and unsecured lending. Unsecured lending means that the two counterparties agree on a loan in central bank money without the provision of collateral; secured money market transfers, by contrast, assume that the borrower (the cash receiver) provides collateral to the lender (the cash provider). Most of the unsecured euro-denominated transactions are settled in central bank money in TARGET2, so that they can be captured by analysing the TARGET2 data.

The interbank money market is essential for the stability and efficiency of the financial system, allowing an optimal distribution of central bank liquidity as its overall volume is limited and controlled by the central bank. Given the relevance of the money market both for the transmission of monetary policy and for financial stability, central banks seek to obtain precise data on the money market. In the euro area today, information is only partially available, mainly through the contributions of panel banks to the daily fixing of the EONIA (Euro OverNight Index Average) and via data from electronic money market platforms, e.g. the Italian e-MID and the Spanish MID. However, access to all these data sources is restricted on account of confidentiality rules, and the sources only provide a partial and often aggregated picture of the euro area money market.

The Furfine methodology
The Eurosystem has attempted to identify euro money market transactions in the euro area by applying the so-called Furfine algorithm to TARGET2 transaction-level data. It should be noted that similar analyses have already been conducted successfully in the case of other currencies such as the US dollar, the Canadian dollar, the pound sterling, the Swiss franc or the Norwegian krone.

The key principle of the algorithm is rather simple: the algorithm searches for transactions with a rounded value from bank A to bank B on a given day that are coupled with transactions with a slightly higher value back from bank B to bank A on the following business day. The difference between the two values makes it possible to calculate the interest rate of the loan. Furfine's algorithm assumes that the value of the payment from bank A to bank B is a round value of USD 1 million plus increments of USD 100,000. The interest rate value is assumed to be within 50 basis points of the federal funds rate.

While the methodology applied by Furfine focuses on overnight loans, further work by others has attempted to apply this methodology to maturities of up to 12 months[4] for example the Eurosystem's implementation by Arciero et al. 2012, in progress, looks also at maturities up to 1 year.

The Eurosystem's implementation

In the euro area, two main implementations of the algorithm were carried out, also for cross-validation purposes: a "corridor" approach developed by colleagues from the Banca d'Italia, De Nederlandsche Bank and ECB[5] - (considering maturities ranging from overnight to 12 months, effectively three months) and a "corridor-free" approach applied by ECB colleagues (considering overnight transactions only).

The first, the "corridor" approach, follows Furfine's methodology of setting an area of plausibility, a so-called interest rate corridor. As not all banks pay exactly the same interest rate, it is essential to filter loan-refund transactions which have a plausible interest rate that lies within the interest rate corridor. Two types of corridor are investigated (different reference rates) with different areas of plausibility (different corridor widths).

The first type of corridor is centred on the ECB's standing facilities, using the marginal lending rate and the deposit rate to set the corridor rates. In addition, the ECB corridor is widened by 25 basis points on either side because rates may also be either below the deposit rate or above the marginal lending rate. The second type of corridor centres on the EONIA or EURIBOR (Euro Interbank Offered Rate) with corridors being created around 25 basis points, 50 basis points and 100 basis points. The reason for choosing corridors centred on a reference rate that differs from the ECB corridor is that during the periods of stressed market conditions, the EONIA/EURIBOR may depart significantly from the key policy rates and some transactions could still lie outside of the proposed plausibility corridor.

The second, "corridor-free" approach differs from that initially developed by Furfine, as a plausible interest corridor is not defined a priori; instead, some very weak assumptions are made about a "reasonable" interest rate. This approach might be particularly warranted in times of stress, in order to answer the question: "What is a reasonable interest rate in volatile times?" The corridor-free approach answers this question ex-post, rather than ex-ante. Many different scenarios and further data-cleaning requirements can easily be applied to candidate interbank loans ex post. The approach is currently implemented only for overnight loans.

The Eurosystem implementations assume that the value of the payment from bank A to bank B is a round value of €1 million with increments of €10,000.

4 For example the extension of the algorithm for maturities up to 1 year has been discussed by Heijmans at all. in: Heijmans, R., R. Heuver, D. Walraven (2010), "Monitoring the unsecured interbank money market using TARGET2 data", DNB Working Paper, No. 276.

5 Arciero et al 2012.

Possible errors and validation of the implementation

The application of Furfine's algorithm is not error-free, as it identifies loans by matching two transactions with certain given boundary conditions. The reason for this is that the algorithm does not "know" what the nature of a transaction is.

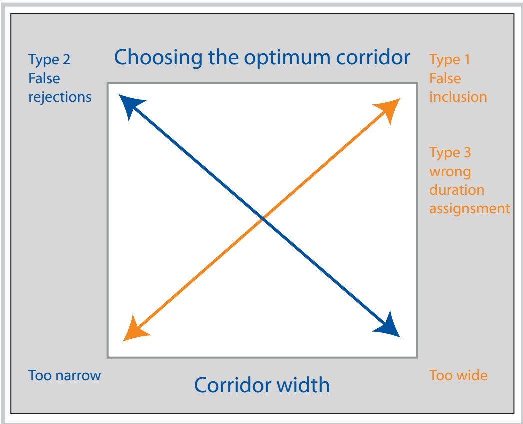


Chart 1: Optimum corridor

More specifically, the possible errors and discrepancies can have a form of: (i) a type 1 error, or a false positive, that occurs when the algorithm identifies two transactions as a loan which do not, in fact, involve the provision and the repayment of a loan; (ii) a type 2 error, or a false negative, occurring when the algorithm does not match two transactions which do, in fact, represent a loan; and (iii) multiple matches, that could occur if a loan can have more than one refund option within the same day or across different days. While type 1 error can typically arise when the corridor is too wide or the maturity is too long, type 2 error is likely to occur when the corridor is set too narrow. Chart 1 shows how to choose the optimum corridor.

Taking into account the possibility of error that can arise from the implementation of the algorithm, it is important to cross-check the results obtained before relying on the output. Although a single dataset of true interbank money market transactions does not exist, or is not fully available for reasons of confidentiality, the Eurosystem has some datasets representing a subset of all euro-denominated interbank transactions, against which the results of the algorithm implementations were compared (e.g. e-MID data and the EONIA). It should be noted on grounds of confidentiality, however, that the use and presentation of such data for the purposes of this study are possible only at an aggregated system-wide or country level.

In general, the performance of the Furfine algorithm, as applied to TARGET2 transactions, could be considered quite satisfactory on the basis of the cross-checks undertaken. In brief, for the "corridor" approach, it was possible to conclude provisionally that EONIA ±100 basis points performed better than the implementations based on other corridors. Furthermore, it was found that the longer the maturity searched, the higher is the error rate. Overall, the implementation of the algorithm is suitable for identifying money market transactions in TARGET2, especially overnight loans. Still, caution is appropriate when interpreting the results, in particular those for longer maturities, as the possibility of overlapping of maturities cannot be ruled out.

What is its use for the operator?

To give an idea of how the manifold results of this analysis are relevant for the Eurosystem also in its role of TARGET2 operator, Chart 2 depicts the average settlement time of loan advances and repayments. Based on the identified transactions, the settlement of loan advancements took place, on average, between 1 p.m. and 3 p.m. CET (with a large share of loans booked in the system between 3 and 3:30 p.m.). It can be observed, however, that the value-weighted average of loan advances is above the simple arithmetic mean, indicating that the higher-value loans are settled later during the day. This timing seems to have changed at the end of 2011, with average settlement times going beyond 3 p.m. and repayments occurring earlier in the day.

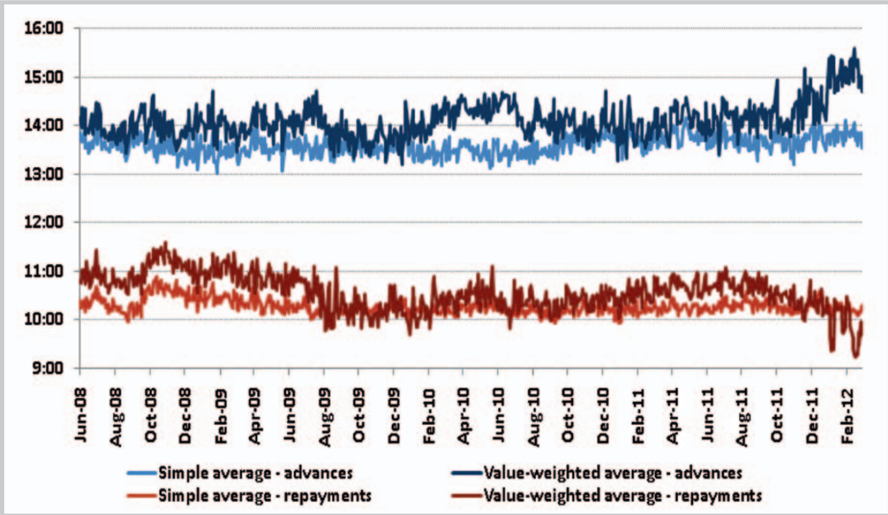


Chart 2: Average time of settlement (loan advances and replayments)

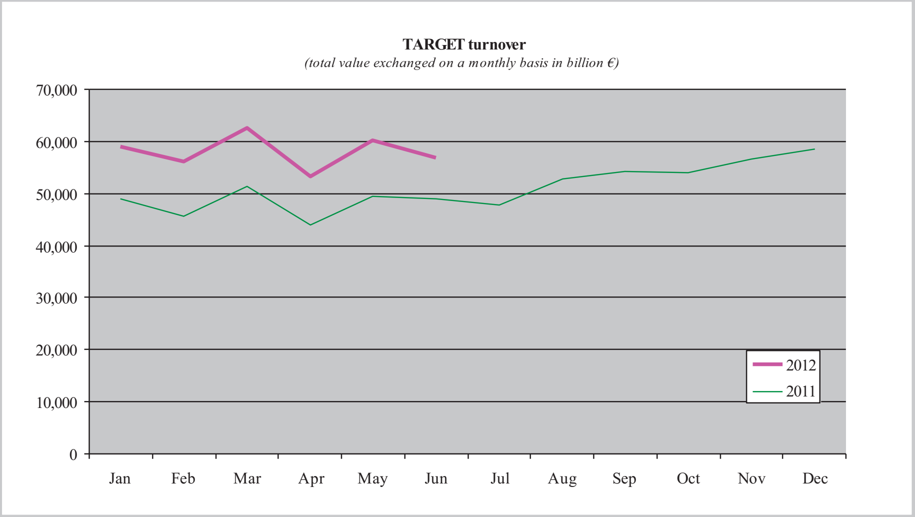
To conclude, the implementation of the Furfine algorithm in the TARGET2 data has proved to be successful. The preliminary outcome of the study indicates that the results can be used for the analysis of general aspects related to the impact of the money market structure on the efficient distribution of central bank liquidity, as well as some operational aspects that are relevant for the operation of TARGET2. Such results are particular useful in a time of distress, including the current financial crisis, since, in the absence of complete information on the euro area money market, they can offer important insights into the distribution of central bank money and the risks of contagion across market participants and countries. In this context, it should be noted that the Eurosystem aims to continue this study with a view to obtaining meaningful results to support its analysis of the money market as a vehicle for monetary policy transmission, and for financial stability purposes.

Main TARGET2 indicators in the first half of 2012

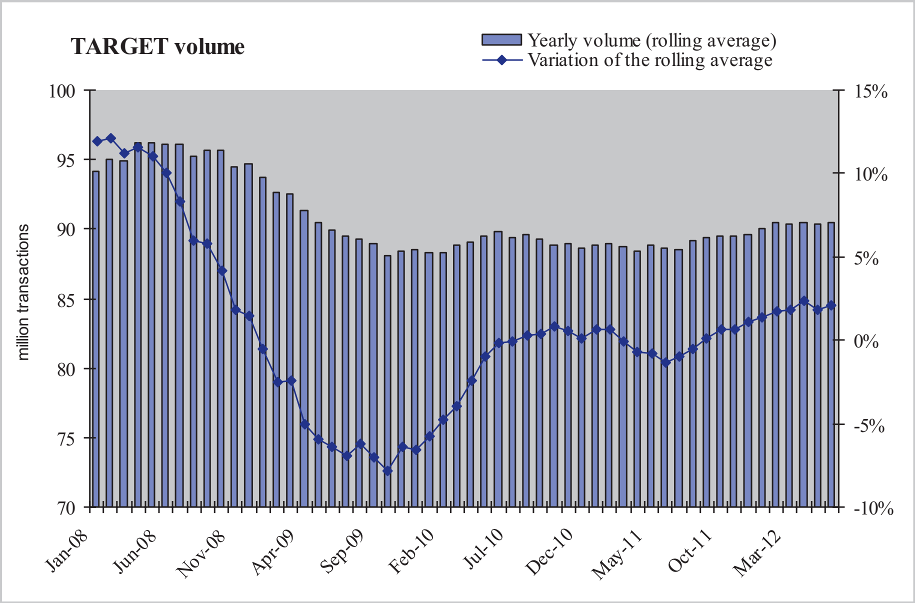
In the first half of 2012:

- TARGET2 processed a daily average of 355,924 payments, representing an average daily value of €2.7 trillion;
- the average value of a TARGET2 transaction was €7.7 million;
- 68% of TARGET2 payments had a value of less than €50,000;
- the peak day was 29 June, with 536,524 payments;
- TARGET2's share in total large-value payment system traffic in euro was 92% in value terms and 57% in volume terms;
- the availability of the system was 100%;
- 99.98% of TARGET2 payments were processed in less than five minutes.

TARGET2 traffic



Cumulative volumes



Special interest article

SSP operational monitoring[6]

Introduction

Over the past five years, the SSP has achieved a very high level of availability and operational monitoring, among a number of factors, may be regarded as one of the reasons for its success.

For the SSP, the term "monitoring" is more than just a technical support solution; operational monitoring is in fact a full-fledged concept that, as a daily duty entailed in running the SSP, involves the live observation of technical events on the monitoring presentation screen as and when they arise in the IT systems.

It has become evident that the success of operational monitoring is not merely a matter of technology, but the product of the following elements:

Chart 1: Monitoring concept

Experience with TARGET2 has clearly shown that successful operational monitoring hinges on a combination of both organisational (people, service procedures) and technical aspects (technical infrastructure, monitoring concept and solution).

Beside the technical realisation, the „soft factors" are essential. With regard to the factor "people", it has been proven that all the relevant teams (business and IT) have a platform within operational monitoring for the purpose of exchanging information and building trust in the monitoring technology available. Full access to all monitoring views on the part of every staff member has made it possible to build a deep understanding of, and trust in, the solution, thus leading to high-quality input for improvement. The "technical infrastructure" for operational monitoring is readily available and gives all teams a strong feeling of confidence as 99% of all possible customer complaints are visualised in advance. This can only be achieved through the continuous improvement of the operational monitoring tool, to be achieved through regular workshops involving all stakeholders and through mandatory reviews after major incidents.

The operational monitoring tool consists of four different monitoring layers with dedicated information purposes: the technical and system monitoring layers deal with the availability and performance of the technical environment that provides information on the SSP's health; the service monitoring layer identifies the "service relevant" IT systems, including their dependencies and interfaces, on the basis of a well-founded operational knowledge of the business and IT; the business monitoring layer displays a selection of core services relevant to the business applications, combined with market data.

The events raised in the different monitoring layers allow business and technical support teams to detect unusual (alarm) situations proactively and to react to or correct these before any defective situations occur.

6 This article was prepared by 3CB colleagues from the Bundesbank and Banca d'Italia, namely by J. Heisel, J.-M. Beyer, R. Mussardo, F. Fillo, M. Pieroni and S. Jongebloed.

Overview of how the SSP has evolved

The TARGET2 project started with the main objective of developing the SSP services on the basis of a “building-block approach”, i.e. by reusing any software existing in each NCB without much adaptation within the project. This approach was also used for the technical monitoring tool TTVOLI NMC, which was already in place at the Banca d’Italia. With this approach, the TARGET2 project was able to benefit from available long-standing experience, including a well-established team, to build required monitoring solutions.

Starting from there, a high-performing best-practice „technical monitoring“ tool was developed to serve as the basic service and business monitoring layer. To support the IT operations teams and to take its input into account, a dedicated monitoring sub-group was established that included all teams of relevance for IT systems. This group was later enlarged in composition to cover the full scope of the SSP by incorporating the business colleagues as well. At regular meetings (so-called monitoring workshops), the monitoring evolved from the technical monitoring layer to the service monitoring layer. This group collected all necessary information from all teams and provided the data needed to formulate concrete requirements that were ultimately implemented by the TA-monitoring team.

Within this latter group, three main monitoring views were developed that form the backbone of TARGET2 operational service quality today. Over the years, this concept has proven to be very reliable, and ongoing improvements continue to change and add new information to the three main SSP views.

What was still needed was the correlation of business-related internal information with external market data. To cover this gap, the business monitor (T2Mon) was introduced in 2009, to finally provide a full picture of TARGET2 through the provision of further views.

(Pictures, from top to bottom: technical view; service view; business day EoD/SoD view; business monitor)

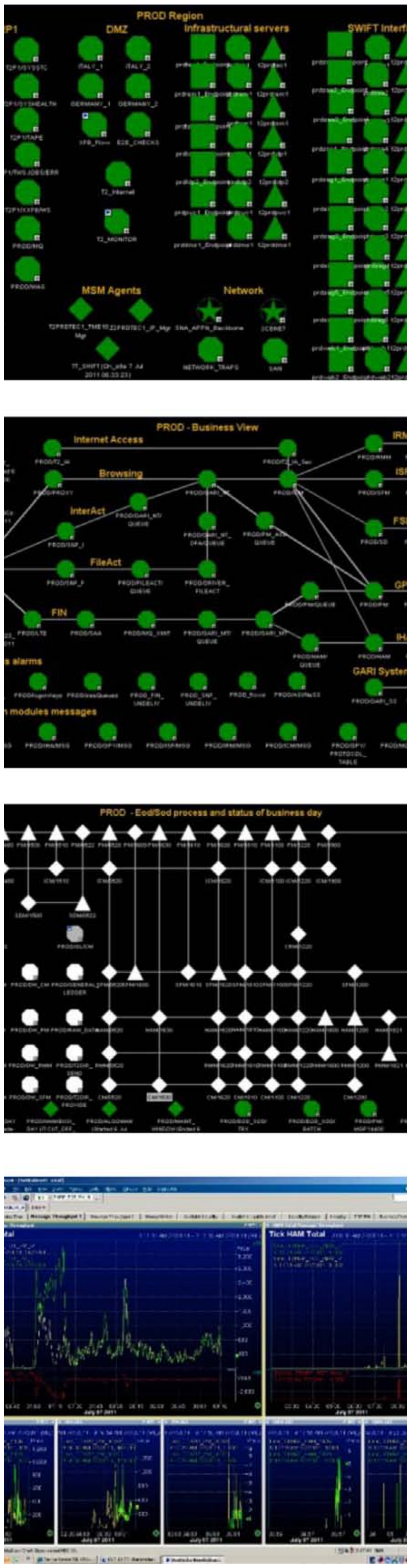


Chart 2: Evolution of SSP operational monitoring

Monitoring Concept
On the basis of experience gained from building and running the SSP over the past few years, it is fair to say that efficient operational monitoring results from the successful combination of:

- people (staff / teams);
- technical infrastructure;
- service procedures.

To establish and maintain the quality of a monitoring solution, the SSP has to deal with the permanent challenge of connecting the forces arising from these three pillars – people, technical infrastructure and service procedures – with the aim of improving services in an ongoing manner. This process is expressed in the monitoring concept.

The monitoring concept had not been set before the SSP started. On the contrary, it has evolved over the years, which is what it continues to do (and, indeed, must do). Today, within the 3CB organisation, it is crystal-clear for all support and evolution teams that monitoring on the basis of its technical infrastructure and service procedures is one of the essential elements of success.

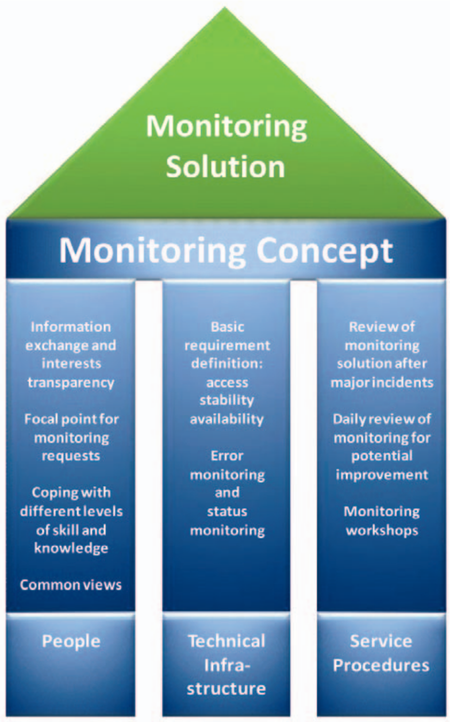


Chart 1: Monitoring concept

Given this understanding and its concept's focus on people and service procedures on the organisation side, the SSP is proof positive that such cultural understanding is widespread across provider central banks and that a great commitment on the part of their staff is the key to the success of the operational monitoring concept. The next section of this article describes the prerequisites for making sure that monitoring starts up and runs well.

People
Within a multicultural project like TARGET2, communication and integration across three institutions located in three different Member States is in itself a major challenge, even more so when there is a need to have all teams build up an awareness of, and acceptance for, a common culture that supports the monitoring solution. Each organisation has its own understanding of monitoring and, specifically, of where the knowledge for the service of operational monitoring has to be concentrated.

The first step is to build a platform where all the relevant teams from business to IT operations, as well as technical and application management, can exchange information and, most importantly, build up confidence in the available monitoring technology. At this point, there is a considerable risk that monitoring competence will not be centred on the team of monitoring experts, with the consequence that several monitoring tools will need to be operated in parallel so as to acquire monitoring information. This could result in a misbalanced operational situation and cause a delay in the case of incidents. Therefore, the best strategy is to establish a single entry point for harmonising and prioritising all monitoring requests and interests.

The SSP team of monitoring experts at the Banca d'Italia has proven to be the focal point for all requests and changes regarding the evolution of monitoring, and is automatically involved in every infrastructure or application update of the system. As a "meta pre-condition", an IT team of monitoring experts with broad competence is considered mandatory; although some IT organisations do not regard this as a worthwhile investment, it has nonetheless proven to be very successful in the SSP and is the key to the stability of the platform.

Technical infrastructure

To provide added value to all support teams, the monitoring infrastructure needs to have two main features: it must be easily accessible and highly stable and/or readily available after any system restart. Furthermore, it should be accessible to all the teams involved and should, in addition, include those teams that may only have a partial need to use the monitoring tool.

The key factor underpinning the monitoring duty is the availability of a technical monitoring tool that manages to consolidate, filter and present all status information relating to the technical infrastructure in an aggregated and structured way. Aggregation means collecting as much information about an IT system as possible, but showing only what is really necessary to evaluate the operational situation. The monitoring tool solution used for SSP can provide information on the basis of two different approaches: error and status monitoring.

Error monitoring basically entails triggering alerts whenever a known, unambiguous, significant message is received from an IT resource via the constantly active and listening monitoring probes. This can be seen as a passive form of monitoring, where the platform is waiting to receive (and properly treat) signals from the IT system that possibly indicate a potential problem.

On the other hand, the monitoring tool solution continuously polls specific (physical and logical) resources in order to establish the status of core functionalities, processes and IT systems. This feature is an indispensable aid for the support teams as it gives confidence during an incident resolution process.

Service procedures

As a follow-up to every major incident, a critical review of the improvement potential of the monitoring tool solution should be undertaken. To this end, it is feasible to include the team of monitoring experts directly in the follow-up process for the purpose of exclusively enhancing the monitoring tool. Under this procedure, the monitoring tool "learns" from every incident, motivated by the need not to be affected by this kind of incident again.

With SSP support teams acting as monitoring stakeholders, it is critical to understand their needs. The SSP fulfils this requirement by holding regular "monitoring workshops", to which all stakeholders are invited, with important information being provided by, and received from all the parties involved during these sessions.

Finally, with all three pillars (people, technical infrastructure and service procedures) now firmly in place, the SSP has developed a living monitoring concept which actively contributes to the stability, acceptance and success of the monitoring solution itself. It can be said that these foundations will also be the basis for further applications such as T2S and will consequently support the latter's reliability and stability.

The four monitoring layers of the SSP

For technical and business purposes, Target2 has developed four different but interdependent layers for the monitoring tool that perfectly coexist alongside one another: technical, system, service and business monitoring.

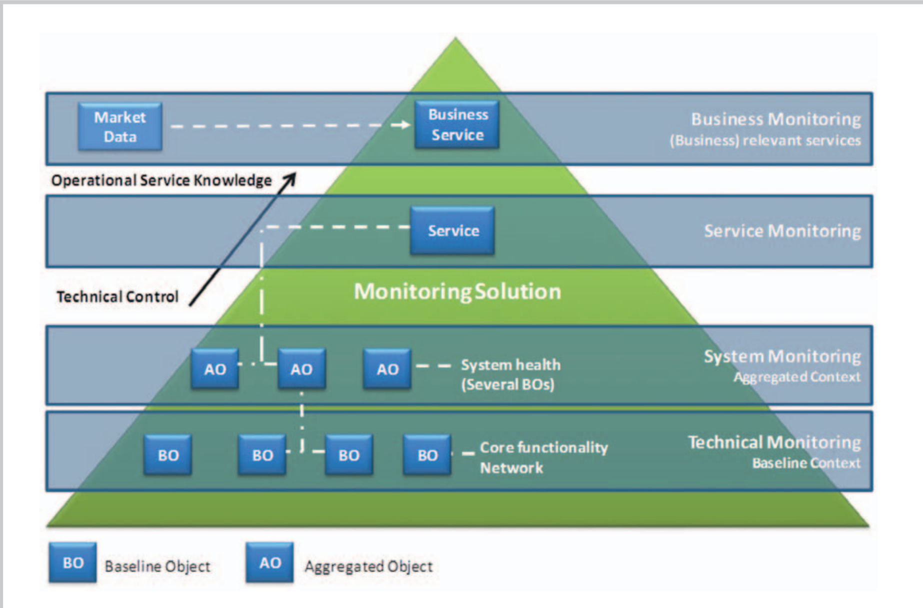


Chart 4: Layers of the operational monitoring

Technical monitoring

In the SSP context, technical monitoring is the baseline that implements the system and service monitoring layers. The main goal of the technical monitoring is to keep continuous watch over all IT components and resources. The term “IT resource” covers both physical and logical components. The monitoring of physical resources can be easily understood; by way of an example, it observes hardware components (CPU, memory, storage, network), system software (DBMS, Transaction Managers) and so on. A logical resource is necessary to control the status and the behaviour of the platform. Examples of logical resources are events, such as the status of the business day, the start and end of technical maintenance or the completed transmission of the general ledger.

Each resource or event that makes sense from an operational point of view can be monitored, provided that the technical monitoring is able to collect information about it. The aim of the technical monitoring platform is to provide, with a negligible delay, up-to-date information about almost every relevant resource or event in the SSP. This low-level information is subsequently used to build monitoring views where the status of these resources and events are displayed.

System monitoring

At this consolidation layer, monitored resources are aggregated to show the functionality of the platform from a purely technical point of view. The resource aggregation and the layout of the infrastructural monitoring view are designed on the basis of technological domains. It is possible to see the overall status of the z/OS systems, the AIX systems, the 3CBNet and so on at a single glance. Basic SSP resources are aggregated so as to build logical structures that represent specific components of the SSP infrastructure used.

To give an example: baseline objects, for which status information are collected (disks, CPU, operating systems, middle-ware), can be arranged together to achieve a unified consolidated view of the status of the servers that host the SWIFT interface. In this way, the whole SSP infrastructure is represented in the monitoring console through its components. By drilling down into such aggregated objects, the up-to-date information for each single resource can be read.

Service monitoring

The purpose of this monitoring layer is the real-time detection and display of the status of the services provided to business users. The monitoring information depends on the status of the underlying IT components used to deliver such services (i.e. the time a message stays in a given queue is used to see whether the message flow is running smoothly and, finally, whether the service is properly provided to the end-users). In case of an event in an IT resource, it helps to identify which business services are impacted.

Service status information is also complemented by end-to-end checks and dedicated messages provided by the application modules. An example is the message that the application has been enabled to inform the technical monitoring about any change in the status of the business day; this information is immediately reflected on the monitoring screen, so that any delay can be quickly detected and managed so as to avoid or minimise any service impact.

Business monitoring

The purpose of the business monitoring layer is the real-time detection of business events (e.g. liquidity problems, market events that have implications for system usage). Business monitoring tends to be an enterprise solution aimed primarily at providing operations managers with a real-time summary of the current status of daily business activities.

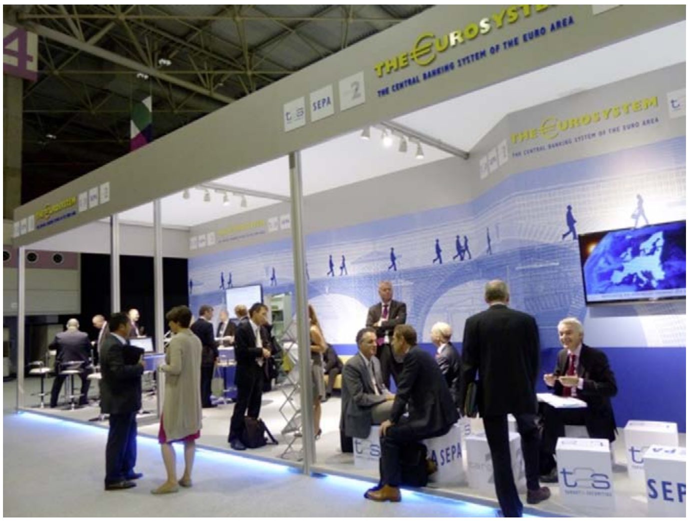
The operational monitoring solution is enriched by an additional component, the market's view on the system. It helps to actively identify business events that are needed to guarantee the stability of the system. Since TARGET2 is an integral part of the financial infrastructure, a change in the overall financial market situation followed by unusual market behaviour might impact the system's usage. This information can be used to adjust certain service levels (e.g. capacity), even before alarms are raised at other monitoring levels.

Conclusion

Taking due account of all the aforementioned aspects, it can be said in summary that effective operational monitoring requires a broad-based approach that is not focused only on IT resources. As regards the challenges ahead for the 4CB in terms of building an adequate monitoring solution to facilitate the smooth operation of T2S, the competences described in this text will make it far easier to successfully implement T2S operational monitoring to the same extent as for TARGET2.

The Eurosystem at Sibos 2012

The Sibos 2012 exhibition took place in Osaka (Japan) from 29 October to 1 November. As in previous years, the Eurosystem was represented with its own stand at Sibos to show and inform about its services and initiatives in the field of financial market infrastructure.



In addition to the presentation at the stand, the Eurosystem organised large sessions, inter alia on Wednesday 31 October 2012 the session, entitled "What will the European financial market infrastructure look like in 2020?" The session was moderated by Mr Alessandro Bonara, ECB Head of TARGET and Collateral Division and composed of two parts: a payments part that included a contribution by Mr Takeshi Shirakami, Bank of Japan, Mr Coen Voormeulen, De Nederlandsche Bank and Mr Jochen Metzger, Deutsche Bundesbank, and a securities/collateral part which included a panel composed of Mr Mark Gem, Clearstream International, Ms Florence Fontane, BNP Paribas Securities and Mr Joël Mérère, Euroclear France. The introductory remarks as well as conclusive remarks were made by Mr Benoît Cœuré, Executive Board of the ECB.

The session was very well attended by Sibos visitors and the interactive and dynamic discussions received a very positive echo, as well did the overall representation of the Eurosystem at Sibos. A key event of the Eurosystem as well as of the Sibos itself was surely the "In a conversation with Mr Benoît Cœuré" initiated BY the Sibos organiser, when Ms Silvia Wadhwa, CNBC, interviewed Mr Cœuré in a one hour session.

In view of TARGET2 a special element has been the official announcement of the ISO20022 strategy for TARGET2 which got a lot of attention from Sibos visitors. The respective announcement is also available on the TARGET2 website.

We thank all our stakeholders for having visited our events and stand at Sibos 2012!

Calendar of events

Next meetings with user representatives

The Eurosystem maintains close relations with TARGET2 users through regular meetings held at the national level between the NCBs connected to the system and the respective national user groups. In addition to the cooperation at the national level, joint meetings of the Eurosystem Working Group on TARGET2 and the TARGET Working Group (TWG), which comprise representatives of the European banking industry, take place regularly at a pan-European level. In 2012 there were two joint meetings: on 7 February and 4 September 2012. Summaries of the joint meetings are available on the TARGET2 website.[7] The dates of the joint meetings have been arranged to fit in with the planning of the annual system releases. Besides the regular joint meetings, additional occasions for cooperation with the TWG may occur on an ad hoc basis.

Further information

More detailed information on TARGET2 can be found in the "**Information guide for TARGET2 users**" and in the most recent TARGET Annual Report, covering the year 2011, which was published on 31 May 2012. All relevant documents and reports can be found on the ECB's website at ***http://www.target2.eu***, as well as on the websites of the participating NCBs.[8] For further information, please e-mail ***target.hotline@ecb.europa.eu***.

7 http://www.target2.eu

8 http://www.ecb.europa.eu/home/html/links.en.html